

TIKHOMIROV, I.I., vrach.

Changes in the blood of winterers at Vostok Station. Inform.  
biul.Sov.antark.eksp. no.31:44-47 '61. (MIRA 15:4)

1. Chetvertaya antarkticheskaya ekspeditsiya.  
(Vostok Station, Antarctica--Blood--Analysis and chemistry)

TIKHOMIROV, I.I.

Some physiological shifts in the human body during the process of  
acclimatization in the intracontinental regions of the Antarctic.  
Vest. AMN SSSR 17 no. 3:74 82 '62. (MIRA 15:4)  
(ANTARCTIC REGIONS---ACCLIMATIZATION)

TIKHOMIROV, I.I.

Changes in the cardiovascular system during acclimatization in  
intracentinal areas of Antarctica. Biul. eksp. biol. i med.  
56 no.12:28-31 D '62. (MIRA 17:11)

1. Kafedra normal'noy fiziologii (zav. - prof. P.G. Snyakin)  
Moskovskogo meditsinskogo stomatologicheskogo instituta.

ACCESSION NR: AP4005816

S/0219/63/056/012/0028/0031

AUTHOR: Tikhomirov, I. I.

TITLE: Changes in the cardiovascular system during acclimatization in  
the intracontinental regions of Antarctica

SOURCE: Byul. eksper. biologii i meditsiny\*, v. 56, no. 12, 1963,  
28-31

TOPIC TAGS: acclimatization, Antarctic climate, cardiovascular system,  
cardiovascular response

ABSTRACT: Effects of low air temperature, low barometric pressure,  
prolonged polar night, relative isolation, and other environmental  
factors on the cardiovascular system were studied at the "Vostok"  
station, located near the South Geomagnetic Pole (78°27'S, 106°52'E).  
The station is 1300 km from the coast and 3420 m above sea level.  
Since the average barometric pressure is about 468 mm Hg, the eleva-  
tion is equivalent to 4000 m absolute so far as partial  
oxygen pressure is concerned. The average annual temperature is

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ACCESSION NR: AP4005816

-55.4°C; the temperature during the warmest month (December) averages -31.1°C; winter temperatures drop below -88°C. Constant winds prevail, and the humidity is very low. Pulse and arterial pressure were taken in a reclining position after a 15-minute rest. A second reading was taken after 15 deep knee bends performed during a 30-second period. Complaints of tachycardia and pain in the cardiac area occurred during the first few days, and increased with time, reaching a maximum toward the end of the polar night. When polar day set in, complaints dropped off sharply. Heart murmurs, dilation of the heart, and a drop in the systolic, diastolic, and pulse pressures occurred in almost all personnel. Pressures dropped rapidly during the first three months, but leveled off during the polar night (April to August). Lowest pressures were observed in June; two persons had systolic pressures of 100 mm; two, 90-95 mm; four, 80-85 mm; and two, below 80 mm. Diastolic pressures varied between 40 and 50 mm during the polar night. Although the blood pressure of station personnel remained subnormal during the entire year in the Antarctic, working ability was not seriously impaired. Pulse rates accelerated during the first few days but returned to normal by the end of the third month. At first, systolic pressure rose markedly by 40 to 55 mm following deep knee bends, then fell off.

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ACCESSION NR: AP4005816

gradually, and by November did not exceed 10 to 15 mm. Isolated conditions in the interior of Antarctica are believed to exert a depressing effect on the central nervous system, which, in turn, affects the functioning of the cardiovascular system. After six or seven months the cardiovascular system stabilizes at new levels compatible with the requirements of the severe environmental conditions of Antarctica, but reactions to exercise remain marked so that complete acclimatization cannot be said to take place at the end of one year. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 19Oct62 DATE ACQ: 20Jan64 ENCL: 00

SUB CODE: AM NO REF Sov: 016 OTHER: 003

Card 3/3

ACCESSION NR: AP4005665

*Read*  
S/0219/64/057/001/0020/0023

AUTHOR: Tikhomirov, I. I.

TITLE: Respiratory changes during acclimatization in the intra-continental regions of Antarctica

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny\*, v. 57, no. 1, 1964, 20-23

TOPIC TAGS: acclimatization, Antarctic climate, Antarctica, cheyne stokes respiration, cheyne stokes breathing, hypoxemia

ABSTRACT: The effects of polar climate and high altitudes on respiration were studied at the "Vostok" station in the interior of Antarctica. Studies covered respiration rates at rest and after exercise, respiratory rhythm patterns, the depth of respiration, the composition of alveolar air, the oxygen concentration of the blood, and the duration of voluntary breath holding. The respiration of sleeping subjects was registered by means of electric thermocouples placed 15 cm from the mouth. All station members exhibited tachypnea and hyperventilation, even when resting. Cheyne-Stokes respiration was observed

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ACCESSION NR: AP4005665

in all subjects, especially when sleeping, during the entire stay in Antarctica. The respiration rate rose slightly during the first few days and then dropped. By the end of the year it was about 11-13 inhalations/min. During the first few months the respiration rate rose sharply (by 10 inhalations/min) after exercise (15 knee bends), but by the end of the year, it increased by only 5 inhalations/min after the same exercise. Pulmonary ventilation rose sharply at first and then dropped gradually, reaching its lowest point during the polar night, at which time it was only 1.5 times the normal level. Composition of alveolar air adjusted at a new level corresponding to a partial oxygen pressure of 53-56 mm Hg and a CO<sub>2</sub> pressure of 26-29 mm Hg. Despite pronounced hypcapnia, pulmonary ventilation remained high. Blood oxygenation under normal respiration fluctuated between 88 and 76% at the beginning of the stay and eventually stabilized between 87 and 72%. It rose to 89-94% under voluntary hyperventilation. During voluntary breath holding and exercise, hypoxemia rose by 62-80%. Orig. art. has 2 figures.

Card 2 / 3

ACCESSION NR: AP4005665

ASSOCIATION: none

SUBMITTED: 19Oct62

DATE ACQ: 24Jan64 ENCL: 00

SUB CODE: AM

NO REF Sov: 015 OTHER: 005

Card 3/3

L 13809-66 EWT(1) GW

ACC NR: AT5028701

SOURCE CODE: UR/3174/64/000/047/0065/0068

AUTHOR: Tikhomirov, I. I. (Physician)

ORG: The Fourth Continental Expedition (Chetvertaya kontinental'naya ekspeditsiya)

TITLE: Blood composition changes of expedition personnel at Vostok Station

SOURCE: Sovetskaya antarkticheskaya ekspeditsiya, 1955- Informatsionnyy byulleten'. no. 47. 1964. 65-68

TOPIC TAGS: Antarctic climate, hemoglobin, hematopoiesis, erythropoiesis

ABSTRACT: Blood composition changes during acclimatization to Antarctic conditions were studied in 9 healthy, middle aged males of the expedition group at Vostok Station in 1959. Blood indices included hemoglobin levels, erythrocyte and leukocyte counts, differential blood counts, erythrocyte sedimentation reactions, and blood viscosity. The blood indices of subjects determined before arrival aboard ship (12/58) were used as normal values and were compared with blood indices determined during polar days (3/59), during polar nights (7/59) and again during polar days and also at the end of a year's stay (12/59). Findings show

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L 13809-66

ACC NR: AT5028701

that although the blood composition changes during acclimatization to Antarctic conditions to some extent correspond to the changes found during acclimatization to high altitudes, there are significant differences. Under Antarctic conditions the period during which the hemoglobin level rises is considerably more prolonged; the most intense hemoglobin level increase takes place during the first 2 to 2½ mos. and then the process continues for some time after this period. Erythrocytes reach their maximum level in the blood considerably earlier than hemoglobin; this lag affects the blood color index. The expressed leukopenia found may be attributed to several factors. First of all, the subject lives in an almost completely barren environment with practically sterile air. Secondly, considerably fewer microorganisms enter the digestive tract, with most of the food being frozen or canned. Other factors contributing to leukopenia include depression of the hematopoietic function and deficiency of ultraviolet irradiation. Blood composition changes apparently are not dependent on the season as no significant differences were found between polar days and polar night. Orig art. has: 3 tables

SUB CODE: 06/ SUBM DATE: 07Sep61/ ORIG REF: 000/ OTH REF: 000

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Card 2/2

TIKHOMIROV, I.I., vrach

Change in blood composition of the wintering-over personnel  
at Vostok Station. Inform. biul. Sov. antark. eksp. no.47:  
65-68 '64. (MIRA 13:4)

1. Chetvertaya kontinental'naya Antarkticheskaya ekspeditsiya.

TIKHOMIROV, I.I., vrach; NIZYAYEV, D.A., maldshiy nauchnyy sotrudnik

Warming air for respiration without exterior heat sources. Inform.biul.  
Sov.antark.e\sp. no.41:51-55 '63. (MIRA 17:1)

1. Chetvertaya kontinental'naya ekspeditsiya.

TIKHOMIROV, I.I., vrach

Characteristics of breathing in persons spending the winter at the  
Vostok Station. Inform.biul.Sov.antark.eksp. no.42:45-48 '63.  
(MIRA 17:1)

1. Chetvertaya kontinental'naya ekspeditsiya.

TIKHOMIROV, I.I., vrach

Observations on the activity of the cardiovascular system in persons spending the winter at the Vostok Station in 1959. Inform.biul.Sov. antark.eksp. no.41:57-60 '63. (MIRA 17:1)

1. Chetvertaya kontinental'naya ekspeditsiya.

LIBRARY OF THE  
UNIVERSITY OF TORONTO LIBRARIES

Vol. 4 No. 3  
Mar. 1953  
Part 2  
Bibliography on  
Frost and Frost  
Forecasting

Tikhomirov, Innokentii K. and Riazantseva, Zinaida N. 524.57(49) C 700  
Klimat Zavolzh'ia. [Climate of the Transvolga region.]  
v. 9, Moscow, 1939. 397 p. 15 maps. 13 figs., 57 + 11  
tables, 47 refs. DLC--In Chap. 3(p. 61-104), entitled  
"Termicheskii rezhim" (Thermic regime), the annual  
variations of air temperature, duration of seasons,  
soil temperature and soil freezing data are given. The  
frequency of frosts, variations of frost free periods,  
extreme dates of early autumn and late spring frost  
based on long period observations are presented and  
discussed. Subject Headings: 1. Frost frequencies  
2. Long period records 3. Frost free period 4.  
Transvolga Region, U.S.S.R.

1. TIKHOMIROV, I. K.
2. USSR (600)
4. Libraries, Private
7. Yu. M. Shokalskiy's library. Izv. Vses. geog. ob-va 79, No. 2, 1947.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

TIKHOMIROV, I. K.

25613 TIKHOMIROV, I. K. Kto byl per'ym issled-cuatelem Khibin? Izvestiya vsesoyus  
geogko-va, 1949, vyp 4, s 427-428-- Cibliogr: 5 nazv

SO: Letopis' Zhurnal' nykh Statey, Vol. 34, Moskva, 1949

TIKHOMIROV, I. K.

28946. TIKHOMIROV, I. K. Podzemnye Tolchki v Khibinskem Gornom Massive (Kol'skiy Poluostrov) Priroda, 1949, No.9, s.55-57.

SO: Letopis' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949

TIKHOMIROV, I. K.

PA 48/49T48

User/Geophysics

Mar/Apr 49

Seismology

Earthquakes

"Subterranean Shocks in the Khibinsk Massif,"  
I. K. Tikhomirov, 1 p

"Iz v-s Geograf Obshch" Vol LXXXI, No 2

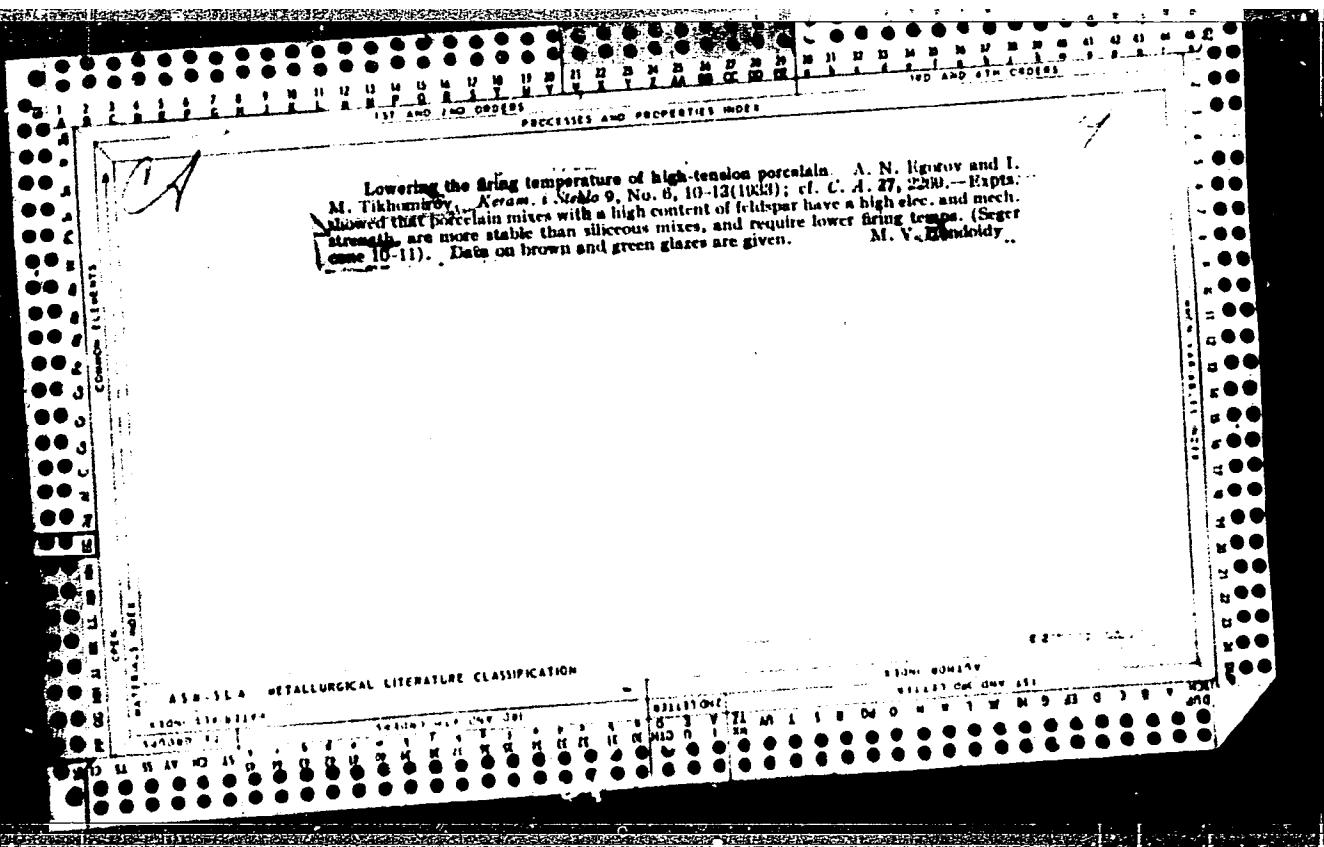
Discusses three subterranean shocks in the  
Khibinsk mountain massif in the Kola peninsula  
which occurred on 23 Sep 48.

48/49T48

1. TIKHOMIROV, I. K.
2. USSR (600)
4. Tundras-Khibin Massif
7. Bottomland tundra in the mountain valleys of the Khibin Massif.  
Izv. Vses. geog. obshch. 84 No. 6, 1952
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unc1.

TIKHOMIROV, I.K.

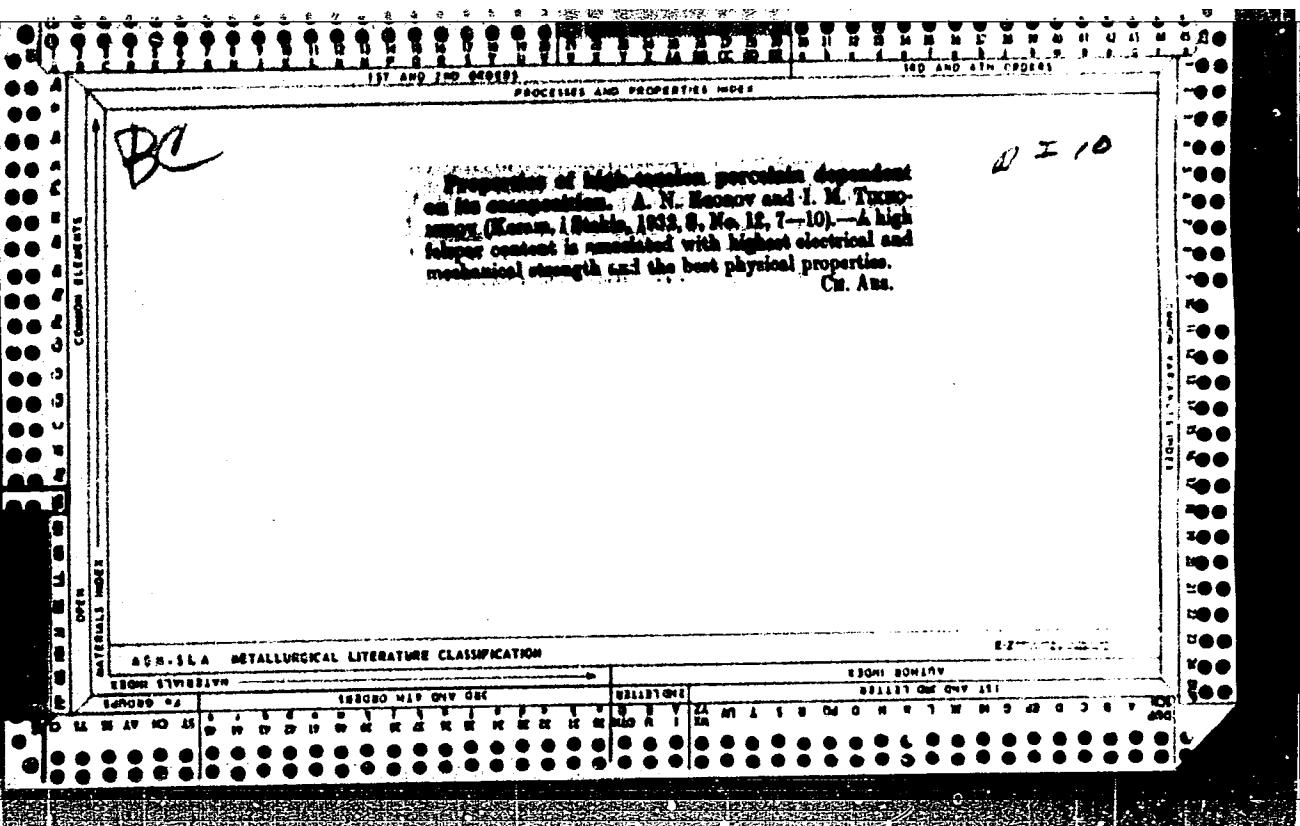
Stages in studying the Khibiny Mountains. Trudy Khib.geog.  
sta.MGU no.1:10.64 '60. (MIRA 15:5)  
(Khibiny Mountains--Geography)  
(Khibiny Mountains--Geology)

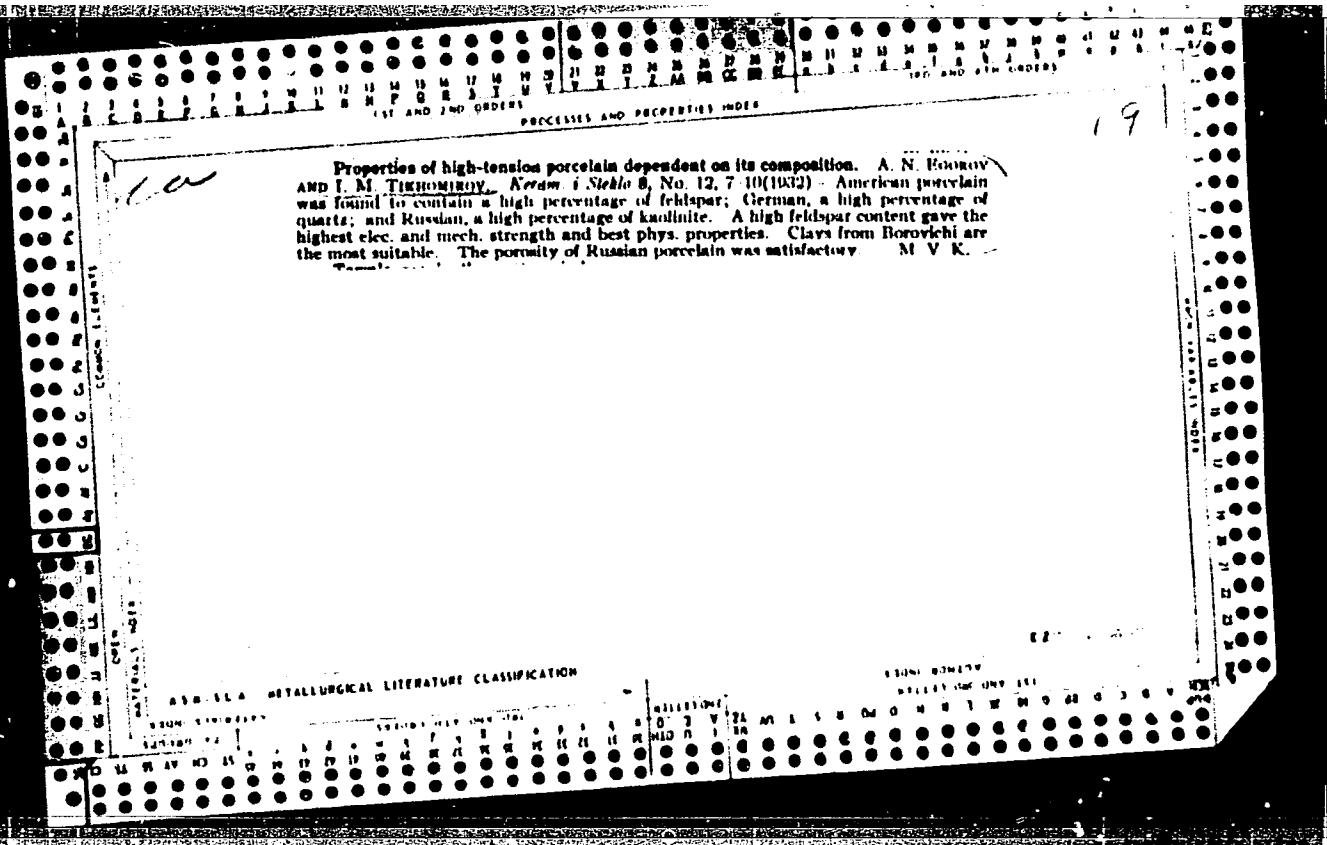


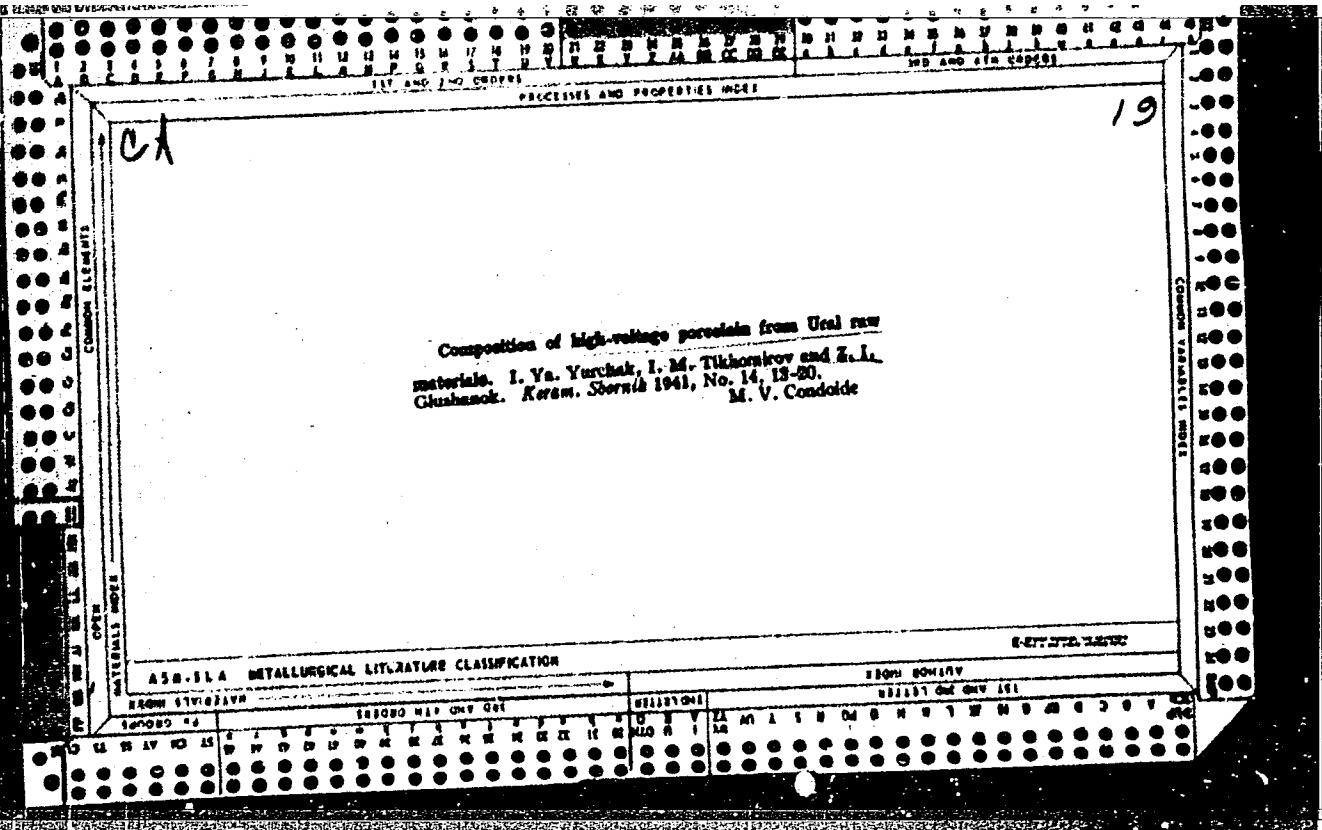
TIKHOMIROV, I. M.

CHEMICAL INDEX	TESTS	TESTS	TESTS
1ST AND 2ND ORDERS	3RD AND 4TH ORDERS	PROCESSES AND PROPERTIES INDEX	
<i>CD</i>			

*Properties of high-tension porcelain dependent on its composition.* A. N. Egorov  
AND I. M. TIKHOMIROV. *Keram. i Sтекло* 8, No. 12, 7-10 (1932).—American porcelain  
was found to contain a high percentage of feldspar; German, a high percentage of  
quartz; and Russian, a high percentage of kaolinite. A high feldspar content gave the  
highest elec. and mech. strength and best phys. properties. Clays from Borovichi are  
the most suitable. The porosity of Russian porcelain was satisfactory. M. V. K.



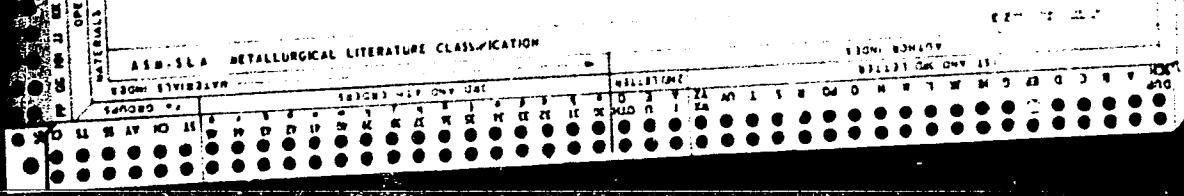




19

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Properties of high-tension porcelain dependent on its composition. A. N. Pronov AND I. M. TIKHOMIROV. *Keram. i Steklo* 8, No. 12, 7-10(1932).—American porcelain was found to contain a high percentage of feldspar; German, a high percentage of quartz; and Russian, a high percentage of kaolinite. A high feldspar content gave the highest elec. and mech. strength and best phys. properties. Clays from Borovich are the most suitable. The porosity of Russian porcelain was satisfactory. M. V. K.



ARKHIPOV, Grigoriy Sergeyevich; BARANOV, Oleg Aleksandrovich;  
PODOBEDOV, Aleksey Nikiforovich; TIKHOMIROV, Ivan  
Nikolayevich; DMITROVICH, A.M., kand. tekhn. nauk, nauchn.  
red.

[Semicontinuous casting of cast-iron pipes] Polunepreryv-  
naya otливка чугунных труб. Minsk, Nauka i tekhnika,  
1965. 91 p. (MIRA 18:3)

TIKHOLOMOV, N.I.; KOZUEOVA, L.A.; TIKHOMIROV, I.N.; KAZITSYN, Yu.V.;  
KHARKEVICH, D.S.; PANOV, Ye.N.; RUDAKOVA, Zh.N.; PAVLOVA,  
V.V.; ROZINOV, M.I.; ALEKSANDROV, G.V.; SHATKOV, G.A.;  
SOLOV'YEV, N.S.

[Intrusive complexes of Transbaikalia] Intruzivnye kompleksy  
Zabaikal'ia. [By] N.I.Tikhomirov i dr. Moskva, Izd-vo  
"Nedra," 1964. 214 p. (MIRA 17:7)

TIKHOMIROV, I.N.

Selection of gas-distribution phases for two-cycle carburetor engines  
with small cylinder capacity. Avt.prom. 29 no.10:13-14 0 '63.  
(MIRA 16:10)

1. Udmurtskiy gosudarstvennyy pedagogicheskiy institut.

113-58-7-24/25

AUTHOR: Tikhomirov, I.N.

TITLE: Critique and Bibliography (Kritika i bibliografiya)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 7, pp 44-45 (USSR)

ABSTRACT: This is a review of the book "Mototsikl. Konstruktsiya, teoriya, raschet" (The Motorcycle. Manufacture, Theory, Calculation) by S.I. Ivanitskiy, Yu.V. Ignatov, B.S. Karmanov, and V.V. Rogozhin, published by Mashgiz in 1958. This book is the first treatment of the theme in 11 years and gives sufficient and up-to-date information on motorcycles for students and factory workers in the field. The chapter on the engine fuel supply system is awkward. Also some diagrams and figures of parts are obsolete and have since been replaced. There are 3 Soviet references.

ASSOCIATION: Voronezhskiy sel'skokhozyaystvennyy institut (The Voronezh Agricultural Institute)  
1. Motorcycles--Production    2. Motorcycles--Theory    3. Motorcycles  
--Mathematical analysis

Card 1/1

TIKHOHOMIROV, I.N., inzhener.

Modern outboard motors. Vest.mash. 37 no.6:21-25 Je '57. (MIRA 10:?)  
(Outboard motorboats)

TIKHOMIROV, I.N.. inzhener.

[Working principle and operation of mobile internal combustion engines]  
Vol. 2. Ustroistvo i ekspluatatsiya peredvizhnykh dvigatelei vnutrennogo  
sgoraniia. Moskva, Gos. izd-vo tekhn.i ekon.lit-ry po voprosam zagotovok,  
19(52). (MLRA 6:7)  
(Gas and oil engines--Maintenance and repair)

TIKHOMIROV, I.N., inzh.

Outboard motors in foreign countries. Sudostroenie 29 no.6:  
34-37 Je '63. (MIRA 16:7)  
(Outboard motors)

L 23296-66

ACC NR: AP6012127, SOURCE CODE: UR/0413/66/000/007/0046/0046

INVENTOR: Dol'nikov, Yu. I.; Bryksin, V. I.; Kushnirov, R. I.;  
Yakobson, Ya. S.; Delov, V. I.; Sysin, A. Ya.; Tikhomirov, I. S.

ORG: none

TITLE: Device for studying movements in the large joints of upper  
extremities. Class 30, No. 180296

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7,  
1966, 46

TOPIC TAGS: biomechanics, prosthesis

ABSTRACT: An Author Certificate has been issued for a device used to  
study movements in the large joints of the upper extremities. It  
consists of splints and sensors for recording angular parameters. To  
obtain quantitative assays of extremity movements and their biotechnological  
characteristics, it is operated in the form of sleeves which  
are linked by splints fitted with hinged-joint potentiometers. These  
are aligned above the center of, or coaxially to, joint rotation.  
A variation of the above device is equipped with a rotation sensor  
attached to the shoulder assembly. This sensor is operated in the form  
of two sleeves mounted on bushings. The wrist is fitted with a forearm

Cord 1/2

UDC: 615.47:612.746-087

L 23296-66

ACC NR: AP6012127

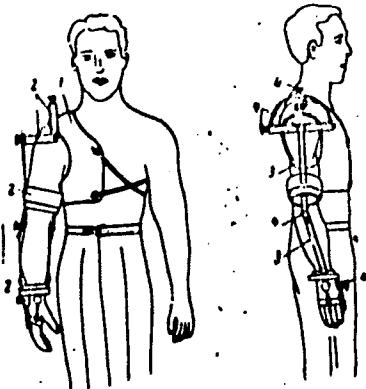


Fig. 1. Diagram of the device.

1 - Shoulder assembly; 2 - sleeves;  
3 - splints; 4 - potentiometers.

rotation sensor with hinged rods attached to the hand. This assembly permits the desired attachment and separate recording of movements in mutually perpendicular planes (see Fig. 1). Orig. art. has: 1 figure.  
[CD]

SUB CODE: 06/ SUBM DATE: 07Jan65/ ATD PRESS: 4230

Card 2/2

8 (5)  
AUTHOR:

Tikhomirov, I. V., Candidate of  
Technical Sciences

SOV/105-59-7-26/30

TITLE:

Automatized Reserve Units of Electric Supply With Flywheels  
(Avtomatizirovannyye rezervnyye agregaty elektrosnabzheniya  
s makhovikami)

PERIODICAL:

Elektrichestvo, 1959, Nr 7, pp 89-91 (USSR)

ABSTRACT:

This is an abstract on the basis of data obtained from the foreign press in the course of the past three years. No references are given. Figure 3 shows the 10 kw reserve-unit of the British firm of "Austin Light" (Ostinlayt). There are 4 figures.

Card 1/1

TIKHOMIROV, I.V.

"Referativnyi zhurnal: Elektrotekhnika i energetika." Elektrichestvo  
no.12:88 D '61.  
(Electric engineering--Abstracts) (Power engineering--Abstracts)  
(MIRA 14:12)

27424 TIKHOCHIROV, I. V. Operatsii na zheludke i dvenadtsatiperstnoy kishke. Po materialam khirurg. Otd-niy za 1941-1947 gg. Trudy Glav. voyen. Sozpitalya Vooruzh. Sil SSSR, in. Akad. Burdenko. TIP. 6. N., 1949, S. 95-106.

SO: Letopis, No. 32, 1949.

*TIKHOMIROV IV.*

TIKHOMIROV, I.V., kandidat meditsinskikh nauk; ROZHKOV, A.T.

~~Disturbance of stomach evacuation following resection. Khirurgiia no.7:34-36 j1 '55.~~ (MLRA 8:12)

(STOMACH, surg.  
gastrectomy, partial, causing disord. in evacuating  
funct.)

TIKHOVICH, I.V., kand. med. nauk, zasluzhennyj vrach RSFSR; GULIKIN, N.F.  
(Moskva)

Some aspects of surgical treatment of cardiac cancer. Khirurgija  
40 no.8:78-82 Ag '64. (MIRA 18:3)

TIKHOMIROV, I.V., podpolkovnik.

Synchronous generators and automatic voltage regulators of German mobile electric power plants. Vest.elektron. 18 no.9:17-20 S '47.  
(MLRA 6:12)

1. Nauchno-issledovatel'skiy inzhenernyy institut sukhoputnykh voysk.  
(Germany--Dynamics) (Dynamics--Germany)

TIKHOCHIROV, I. V.

"Increasing the Stability of Operation of Mobile Electric Power Stations when Starting Electric Motors of Commensurate Power." Sub 22 Oct 51, Military Red Engineering Academy imeni V. V. Kuybyshev

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

TIMONIROV, I.V., inzh.

Lightweight portable electric power plants, Elektrichesstvo no.12:  
80-82 D '56.  
(Electric power plants)

(MIRA 11:3)

PA 237T28

USSR / Electricity - Power Stations, Mobile Jul 52  
Excitation Circuits

"Increasing the Stability of Operation of Mobile  
Electric Power Stations When Electric Motors of  
Commensurable Power are Being Started," Cand Tech  
Sci I. V. Tikhomirov, Moscow

"Elektrichestvo" No 7, pp 26-32

Cites average calc'd parameters of synchronous gen-  
erators suitable for mobile power stations and  
calc'd formulas for detg max voltage drop when gen-  
erator excitation is compounded or regulated with  
electromechanical regulators. Presents practical  
237T28

recommendations for increasing stability of mobile  
stations when starting squirrel-cage induction  
motors of commensurable power. Submitted 18 Feb 52

TIKHOMIROV, I. V.

237T28

87574

S/184/59/000/006/005/006  
A104/A026

1.2300

AUTHOR: Tikhomirov, I.Ye.; Engineer

TITLE: Experiments With Electroslag Welding in the Ural Chemical Machinery Plant

PERIODICAL: Khimicheskoye mashinostroyeniye, 1959, No. 6, pp. 43 - 45

TEXT: Electroslag welding used on thick-walled machine parts, i.e., slabs, semi-tiers, flanges and pipe grids is described. Edges are prepared by separation gas cutting. The welding process on slab is described: The parallelism of welded edges and the rod is tested by a gauge; the wire coiling is checked, because faulty windings affect the quality of welds; the wire speed, the distance between jets and other characteristics are determined according to the weld quality. Sliders are firmly fixed to the edges of the entrance pocket; gaps are filled with a mixture of asbestos and kaolin. The electroslag welding begins after slag pool formation of more than 35 mm depth. At the beginning, slag is formed by the usual electric-arc process, which then changes into the electroslag process. The excitation of the welding arc is improved by addition of 5 - 10 mm metal filings to the bottom of the entrance pocket, topped by 50 - 60 mm flux. During slag forma-

Card 1/2

87574  
S/184/59/000/006/005/006  
A104/A026

X  
Experiments With Electroslag Welding in the Ural Chemical Machinery Plant

tion the voltage increases to 50 - 52 v and the wire speed decreases to 100 - 120 m/h. To prevent the escape of melted slag the distance between the electrodes and sliders is increased to 20 - 30 mm. The temperature of joint and edges of base metal is visually controlled, the depth of the slag pool is checked by palpitation. Red-hot joint and edges indicate a uniform welding depth. As sliders become even with the upper edge of the exit strips the upward movement of the welder ceases, the welding current is reduced to 200 - 250 amp and welding stops completely when the slag pool reaches a depth of 35 mm. Mechanical properties of pipe grids, slabs and flanges are improved by heat processing at 880 - 900°C. Semi-tiers are subjected to annealing at 600 - 650°C. Welded joints were inspected by mechanical ultrasonic tests and by gamma graphitization. Any faults should be corrected immediately after welding before heat and mechanical processing. A second ultrasonic test takes place after heat and before preliminary mechanical processing. The latter is carried out to ensure a sufficiently smooth surface of  $\approx 6$  roughness. During mechanical processing the removal of metal is kept to a minimum, which leaves a margin for correcting any faults by electric welding and subsequent thermal processing. There are 4 figures and 1 table.

Card 2/2

TIKHOMIROV, I.Ye., inzh.

Electric welding of slags at the Ural Chemical Machinery Plant.  
Khim. mash. no.6:43-45 N-D '59. (MIRA 13:3)  
(Sverdlovsk (Sverdlovsk Province)--Electric welding))  
(Slag)

TIKHOMIROV, K.I. I MATLIN, S. Z.

25156 TIKHOMIROV, I. I. I MATLIN, S. Z. Sposob Uvelicheniya Proizvodstva  
Suininy. Sots. Zhivotnouodstvo, 1949, No. 3, S. 72-74. 3 Let Zhurn. St.  
No. 33.

SO: Letopis' No. 33, 1949

AMS/A-1 B

J.3-182

Tikhonov, K. V. Luchistoe opisanie v literaturnykh svedeniiakh o sovremennoi  
tekhnike. [Radiant heating in the history of the development of heating and ventilating  
technique.] *Gigiena i Sanitariya*, Moscow, No. 5-15, May 1981. 3 figs. DLC—The  
development of scientific heating and ventilating techniques and of radiant heating methods,  
which take into account physiological comfort, in Russia from 1745 to the present is discussed.  
The names of the various investigators are noted. The discussion略gives the advances that  
have been made in this field in other countries. *Subject Headings:* 1. Bioclimatology 2. Heat-  
ing and ventilating 3. Radiant heating.—J.L.D.

531.306:629.8

TIKHOMIROV, K.V.

Dust and number of microbes in the air of buildings heated by an  
ordinary water system and a ceiling radiant heating system. Gig.i  
san.no.4:41-42 Ap '54. (MLRA 7:4)

1. Iz kafedry kommunal'noy gigiyeny Kazanskogo meditsinskogo  
instituta. (Dust) (Air--Bacteriology) (Heating)

TIKHOMIROV, K.V., inzhener.

Experiment in the operation of a radiant heating system. Stroi.  
prom. 32 no.3:38-41 Mr '54. (MLRA 7:5)  
(Radiant heating)

TIKHOHMIROV, K. V.

TIKHOHMIROV, K. V. -- "History of the Development of Radiant Heating and  
and Investigation of It Under Natural Conditions." Moscow Inst of Municipal  
Construction Engineers of the Moscow City Executive Committee. Moscow, 1955.  
(Dissertation for the Degree of Candidate in Technical Sciences)

SOURCE Knizhnaya Letopis' No 6 1956

TIKHOMIROV, K.V.

Viacheslav Avgustovich IAkhimovich; on his 80th birthday. Vod. i  
san. tekhn. no.3:29-30 Je '55. (MLRA 8:12)  
(IAkhimovich, Viacheslav Avgustovich, 1875-1942)

TIKHOIROV, K.V.

Introduction of sanitation equipment stations in rural localities.  
Gig. 1 san. 24 no. 12:53-55 D '59. (MIRA 13:4)

1. Iz kafedry kommunal'noy gigiyeny Kazanskogo mediteinskogo  
instituta. (RURAL HEALTH)

TIKHOIROV, K.V.

Organization of independent work of students in communal hygiene.  
Gig.i san. 24 no.11:42-44 N '59. (MIRA 13:4)

1. Iz kafedry kommunal'noy gigiyeny Kazanskogo meditsinskogo  
instituta. (HYGIENE)

TIKHOIROV, K.V.

Using the overhead heating systems as cooling systems in summer.  
Vod. i san. tekhn. no. 7:22-26 J1 '58. (MIRA 11:7)  
(Radiant heating)  
(Air conditioning)

TIKHOMIROV, K.V. (Kazan')

History of the cooperation of physicians and engineers in problems  
of heating and ventilating buildings. Gig. i san. 23 no.5:43-47  
My '58 (MIRA 11:6)

(HEATING  
of buildings, cooperation of physicians & engineers  
(Rus))

(VENTILATION,

same)

(PHYSICIANS

cooperation with engineers in heating & ventilation  
of buildings (Rus))

TIKHOIROV, K.V. (Kazan')

Bibliografy. Vod. i san. tekhn. no.11:37-38 N 164.

(MIRA 18:2)

TIKHOMIROV, L., podpolkovnik

Operations in the crossing and landing of a company. Voen.  
vest. 41 no.5:98-102 My '61. (MIRA 14:8)  
(Stream crossing, Military)

GLUKHOV, I.A.; TIKHOMIROV, L.A.

Method for obtaining molybdenoxytetrachloride  $\text{MoOCl}_4$ . Dokl. AN  
Tadzh. SSR 3 no. 2:15-18 '60. (MIRA 14:4)

1. Institut khimii AN Tadzhikskoy SSR. Predstavлено членом-  
корреспондентом AN Tadzhikskoy SSR R.B. Baratovym.  
(Molybdenum chlorides)

KRAVCHENKO, V.S.; STEPANOV, I.A.; TIKHOMIROV, L.A.; KAMOVNIKOV, B.P.;  
GLAZUNOV, A.I.

Automatic maintenance of constant pressure in continuous rectifying  
columns. Spirt.prom. 27 no.3:29-33 '61. (MIRA 14:4)  
(Leningrad—Liquor industry—Equipment and supplies)  
(Distillation apparatus)

L 24104-592

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ALL INFORMATION CONTAINED

241.12 241.22

Author: Levchenko, L. A.; Klyueva, V. S.; Date: 1950; Pg. 79.

Title: The kinetics of free radical build-up during radiolytic decomposition of  
solid alcohols

Abstract: Electron paramagnetic resonance was used to study the

build-up and recombination of radicals  $\text{CH}_2\text{OH}$  and  $\text{CH}_3\text{CHOH}$  in the irradiated com-  
pounds  $\text{CaCl}_2 \cdot 4\text{CH}_2\text{OH}$  and  $\text{CaCl}_2 \cdot 3\text{C}_2\text{H}_5\text{OH}$ . The samples were bombarded with electrons  
having energies of 1.6 mev directly in the resonator of an electron paramagnetic  
spectrometer. It was found that the limiting concentration of the alcohol rad-  
icals increases with increasing dose rate. The reaction rate of radical recombina-  
tion decreases with increasing dose rate. The authors also determined the dose  
rate at which the radicals begin to disappear. These results are discussed in the

Cont 1/2

L 54584-65  
ACCESSION NR: AP5012447

Reaction rate of decomposition of some organic compounds. Part I. Gaseous rate constants. The constant of the reaction of decomposition of organic compounds by radiative decomposition. The temperature dependence of the reaction rate constant does not exceed 10% over the range 200-400° K. The reaction rate constant has a value of  $10^6 \text{ sec}^{-1}$ . The reaction rate constant has: 4 figures.

ASSOCIATION: Institut khimicheskoy fiziki, Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences of the USSR)

Card 2/2

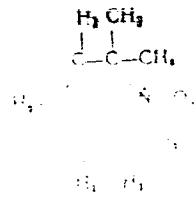
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SAC-Bethesda  
AUG 19 1986

TITLE: Decomposition of free radicals by ionizing radiation

this purpose 2,2,6,6-tetramethylpiperidine nitric oxide radical was selected

Card 1/2

*A*  $\approx$   $8 \times 10^{-3}$   $\text{m}^2/\text{N}$



since it is highly stable. The samples were irradiated with 1.6 Mev electrons directly in the cavity of the EPR spectrometer so that the change in radical concentration could be followed directly. The

Figure 5. The number of the free radicals of 1,4-phenylene, 4,4'-biphenyl, and 4,4'-diphenylbenzene.

Part 2 / 3

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755610003-3

ASSOCIATION! Institut khim-chekoy fiziki AN SSSR

NO REF SOV: 004

OTHER: DUSA

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755610003-3"

**TOPIC TAGS:** free radical radiolysis, solid state radiolysis, gamma irradiation, radical annihilation

**ABSTRACT:** The authors studied the kinetics of annihilation of stable free radicals of 2,2,6,6-tetramethylpiperidine hydroxylamine in frozen isopropyl alcohol irradiated with 1.6 MeV electrons at 100K. The concentration of radicals decreased with time according to the equation

where D is the dose, K = 4.7 x 10<sup>-4</sup> sec.<sup>-1</sup>

ACCESSORIES INC. A Division of

Orig. art. no.: 1 figure, 2 tables  
ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences, USSR)

NP

Заговорщики в полиции. Конспираторы в полиции.

Жемчужина, О., tr.

Заговорщики в полиции. Конспираторы в полиции. Ред. И. Невский; с французского О. Жемчужиной. Москва. Учен. общ.-вое издательство и науч.-популярн. 1936. 171 p.

1. Socialism in Russia. 2. Police - Russia. I. Zhemchuzhina, O., tr. II. Nevskii, Vladimir Ivanovich. 1976- ed.

1. ZINOV'EV, A., TIKHOMIROV, M.
2. USSR (600)
4. Machine-Tractor Stations
7. Working out five-year plans for developing machine-tractor stations. Sots. sel'khoz.  
23 no. 12, 1952.
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Uncl.

TIKHOIROV, Mikh.

"Save our souls" by Sergei L'vov. Reviewed by Mikh.Tikhomirov.  
Sov.profsoiuzy 17 no.22 247~48 N '61. (MIRA 14:10)  
(L'vov, Sergei)

TIKHOMIROV, Mikh.

Peace, work and May Day. Sov. profsoiuzy 18 no.8:2-3 '62.  
(MIRA 15:4)  
(Russia--Economic conditions) (Trade unions)

TIKHOMIROV, Mikhail Ivanovich; BERGAUZ, R.I., redaktor; ZUBRILINA, Z.P.,  
tekhnicheskiy redaktor.

[Methods establishing production standards at machine-tractor stations and on collective farms] Metodika tekhnicheskogo normirovaniya v MTS i kolkhozakh; instruktivnoe posobie dlia spetsialistov sel'skogo khoziaistva. Moskva, Gos.izd-vo sel'khoz. lit-ry. 1956. 95 p. (MLRA 9;6)  
(Machine-tractor stations--Production standards)(Collective farms--Production standards)

TIKHOMIROV, M.I.

Adopting the practice of harvesting crops in separate stages in  
the Altai Territory in 1956. Zemledelie 5 no.7:31-39 Jl '57.  
(MLRA 10:8)

1. Sibirskiy filial Vsesoyuznogo nauchno-issledovatel'skogo in-  
stituta ekonomiki sel'skogo khozyaystva.  
(Altai Territory--Grain--Harvesting)

KULIK, Gennadiy Vasil'yevich; TIKHOMIROV, Mikhail Ivanovich; LAPIDUS,  
M.A., red.; GUREVICH, M.M., tekhn.red.; ZUBRILINA, Z.P.,  
tekhn.red.

[Organizational-economic plan for reducing collective farm  
expenditures] Organizatsionno-khoziaistvennyi plan snizheniya  
zatrata kolkhoza. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960.  
83 p. (MIRA 13:6)

(Siberia, Western--Agriculture--Costs)

TIKHOMIROV, M. I.

USSR / Cultivated Plants. Cereals.

M

Abs Jour : Ref Zhur - Biol., No 34599

Author : Tikhomirov, M. I.

Inst : Not given

Title : Generalization of an Experiment in Two-Stage Harvesting  
in 1956 at Altayskiy Kray

Orig Pub : Zemledeliye, 1957, No 7, 31-39.

Abstract : No abstract given.

Card 1/1

Tikhomirov, M. N.

USSR/Scientists - Electrochemistry

Card 1/1 Pub. 147 - 27/27

Authors : Agafonov, I. L.; Pavlov, N. E.; and Tikhomirov, M. N.

Title : Ivan Grigoryevich Shcherbakov

Periodical : Zhur. fiz. khim. 28/9, 1707-1712, Sep 1954

Abstract : An eulogy honoring the death of I. G. Shcherbakov (1891-1953), famous Soviet electrochemist, is presented. List of major works by I. G. Shcherbakov is included.

Institution : ...

Submitted : ...

SOV/137-58-8-17450

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 178 (USSR)

AUTHOR: Tikhomirov, M.N.

TITLE: On the Anodic Dissolution of Copper in Sodium Pyrophosphate  
(Ob anodnom rastvorenii medi v pirofosfate natriya)

PERIODICAL: Tr. Gor'kovsk. politekhn. in-ta, 1957, Vol 13, Nr 5, pp  
62-65

ABSTRACT: The process of the production of pyrophosphate of Cu by anodic dissolution in a  $\text{Na}_4\text{P}_2\text{O}_7$  solution, the anodic and the cathodic space being separated by a ceramic partition, was studied. On the basis of the measurement of anodic polarization curves and the determination of the time relationship of the anode potential, the intensity of the current in the bath, and the anodic current efficiency, the following conditions for the anodic solution of Cu were proposed: Anode cd 0.25 amp/ $\text{dm}^2$  (without stirring) and 0.5-1.0 amp/ $\text{dm}^2$  (with stirring). In either case the presence of free  $\text{Na}_4\text{P}_2\text{O}_7$  (to the saturation limit) is indispensable. The electrochemical method is proposed for the preparation of the pyrophosphate of Cu solutions containing no substances other than the pyrophosphates of Cu and Na.

Card 1/1    1. Copper phosphates--Production    2. Sodium phosphate    N.O.  
solutions--Applications    3. Electrolysis

TIKHOIROV, Mikhail Nikolayevich

[Old Russian cities]. Drevnerusskie goroda. Moskva, 1946. 253 p.  
(Cities and towns) (MIRA 8:11)

TIKHOV, MIKHAIL NIKOLAEVICH, 1893

(Novgorod documents on birch bark; from excavations of 1951

CN398.R9A75

1. Inscriptions - Novgorod, Russia (City)
2. Bark. I. Tikhomirov, Mikhail Nikolaevich, 1893

KLEPIKOV, Sokrat Aleksandrovich; TIKHOMIROV, M.N., akademik, redaktor;  
KHOVANSKIY, I.P., tekhnicheskiy redaktor

[Bibliography of printed maps of the city of Moscow from the 16th  
to the 19th century] Bibliografiia pechatnykh planov goroda Moskvy  
XVI-XIX vekov. Pod red. i so vstup. stat'ei M.N.Tikhomirova.  
Moskva [Gos. biblioteka SSSR im. V.I.Lenina]. 1956. 120 p.

(MLRA 10:2)

(Bibliography--Moscow--Maps)

SHUNKOV, Viktor Ivanovich; TIKHOMIROV, M.N., akademik, otvetstvennyy redaktor;  
ZOMBE, Ye.B., redaktor Izdatel'stva; AUZAN, N.P., tekhnicheskiy  
redaktor

[Outline history of agriculture in Siberia during the 17th century]  
Ocherki po istorii zemledeliia Sibiri(XVII vek). Moskva, Izd-vo  
Akademii nauk SSSR, 1956. 430 p. (MLRA 9:10)  
(Siberia--Agriculture)

TVERSKAYA, D.I.; TIKHOMIROV, M.N., akademik, red.; KLYUCHEVA, T.D.,  
tekhn.red.

[Moscow of the second half of the 17th century, the center  
of the developing all-Russian market] Moskva, vtoroi poloviny  
XVII veka - tsentr skladovyaiushchegosia vserossiiskogo runka.  
Pod red. M.N.Tikhomirova. Moskva, 1959. 123 p.

(MIRA 14:1)

(Moscow--Commerce)

39659  
S/137/62/000/007/069/072  
A160/A101

18.1210

AUTHORS:

Tikhomirov, M. N., Shirokova, Ye. I.

TITLE:

New type of anode-treatment of aluminum and its alloys ("ematalirovaniiye")

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1962, 100, abstract 7A679  
("Tr. Proyektn., tekhnol. i n.-i. in-ta. Gor'kovsk. sovnarkhoz".  
Gor'kiy, 1961, 57 - 63)

TEXT: Considered is the process of the formation of non-transparent oxide layers on aluminum and its other alloys. A technological process of building up protective and decorative non-transparent layers on aluminum and its alloys in titanium-potassium oxalic acid and chrome boric electrolytes was worked out. A transparent film which is easily colored by organic dyes develops in a chrome-boric electrolyte. No protective and decorative layer was obtained on the Al-2 alloy. The "ematalirovaniiye" takes place most easily in an electrolyte with the following composition (in g/l): 40 titanium-potassium dioxalate, 8  $H_3BO_3$ , 1, 2 oxalic acid, 1 citric acid; the

Card 1/2

New type of anode-treatment of...

S/137/62/000/007/069/072  
A160/A101

temperature of the bath 55°C; pH 1.5 - 2.5; Da 2 - 3 a/dm<sup>2</sup>, the tension 60 volts.

Ye. Layner

[Abstracter's note: Complete translation]

Card 2/2

USSR

JOURNAL ARTICLE TRANSLATION

Transl. No.  
& Country

Translations Issued By S. M. R. E.,  
Ministry of Fuel and Power

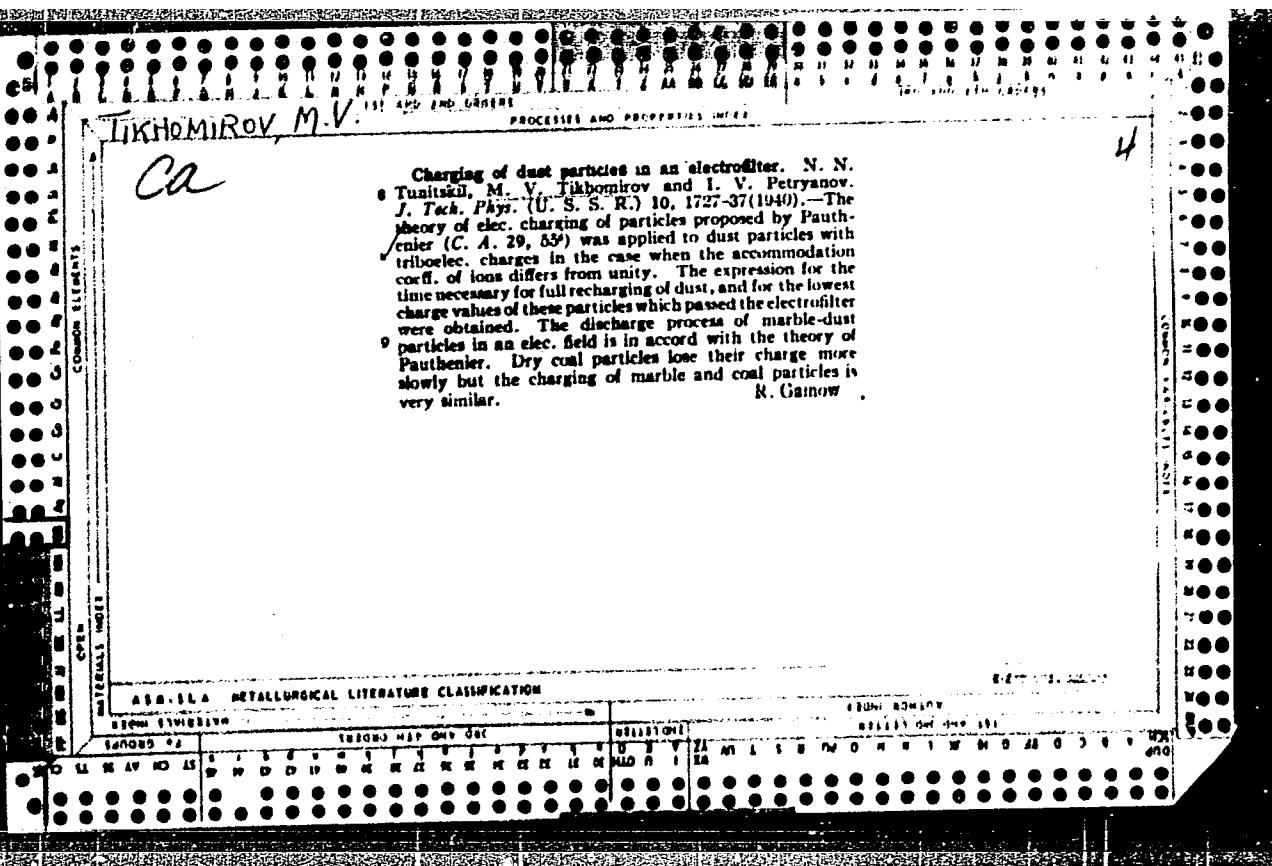
Author

3783  
OT/1190  
U.S.S.R.

Tribo-Electric Dust Charges  
Zh. tekh. Fiz., 10(2C), 1723-1726, 1939

N. N. Toonitsky  
M. V. Tikhomirov  
I. V. Petrianov

Source: Index Aeronauticus, Vol. 11, No. 6, p 133, June 1955



*Tikhonov et al. 1954*

537,563

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USSR

7520. Mass spectrum of methane at elevated pressures. Yu. M. KUCHINSKII, M. V. TIKHONOV and N. N. TIKHONOV. *Dokl. Akad. Nauk SSSR*, 92, No. 6, 1193-5 (1954) *In Russian.*

Presents the results of studies on the pressure-dependence of the "fractional" peaks  $11^{+}$ ,  $1$ , and  $10^{+}$ , occurring in  $\text{CH}_4$  as a result of processes  $\text{CH}^+ \rightarrow \text{C}^+ + \text{H}$  and  $\text{CH}_2 \rightarrow \text{C}^+ + 2\text{H}$ . The dependence of the intensity ( $I$ ) of the primary peaks on pressure ( $p$ ) can be represented by the formula  $I = (A_p + Bp^2) \exp(-\kappa p)$ , where  $A$  is the probability of the primary peak being formed by a collision with an electron,  $Bp^2$  is the term allowing for the possibility of a change in the number of resultant ions, due to collisions in the ionic source, and  $\kappa$  is the coefficient of scattering. If the coefficients of scattering are equal for the primary and secondary ions, then the intensity of the secondary peak  $I^* = IC_p$ . For  $B = 0$  and small values of  $\kappa p$ , the  $I^*/I$  ratio  $\sim (C/4)(1 - \kappa_c/4)$ . Experiments conducted with a 60-mass spectrometer show that, for the peaks  $11^{+}$ ,  $1$ , and  $10^{+}$ ,  $I^*/I$  is proportional to  $\kappa I \cdot \beta I^2$  and (2), at small pressure

values, proportional to pressure. The cross-section of the reaction  $\text{CH}^+ \rightarrow \text{C}^+ + \text{H}$  is of the order of  $1 \times 10^{-18} \text{ cm}^2$ .

*RJL F. Lachowsky**Phys. Chem. Inst. Karpov-*

Tikhomirov, M. V.

USSR/Physical Chemistry - Photochemistry. Radiation Chemistry. Theory of the Photographic Process, B-10

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 470

Author: Tunitskiy, N. N., Kupriyanov, S. Ye., and Tikhomirov, M. V.

Institution: Academy of Sciences USSR

Title: Effect of Electrons of Different Energies on the Ionization and Dissociation of Some Hydrocarbon Halides

Original Periodical: Sb. rabot po radiatsionnoy khimii, Moscow, Publishing House of the Academy of Sciences USSR, 1955, 223-240

Abstract: The ionization and dissociation of halogen derivatives of hydrocarbons has been carried out with a type MS-1 mass spectrometer, supplemented as follows: (1) automatic scanning of the mass spectrum, (2) automatic recording of the mass spectrum, and (3) introduction of the sample into the ion source. The mass spectra of  $\text{CH}_4$ ,  $\text{CH}_3\text{Cl}$ ,  $\text{CH}_2\text{Cl}_2$ ,  $\text{CHCl}_3$ ,  $\text{CCl}_4$ ,  $\text{CH}_3\text{Br}$ , and  $\text{CH}_3\text{I}$  have been recorded with electron energies of 100 ev. It is shown that as the number of halide atoms

Card 1/2

USSR/Physical Chemistry - Photochemistry. Radiation Chemistry. Theory of the Photographic Process, B-10

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 470

Abstract: in the molecule increases, the maximum intensity of the ionic current shifts from the region of molecular ions to that of ions formed by the splitting off of an atom, i.e., dissociation begins to overshadow ionization. Aromatic ions and some secondary processes which occur during ionization and dissociation were investigated. The formation of  $H_2X^+$  was observed in the mass spectra of some halogen derivatives of methane. The dependence of the ionization and dissociation of the molecules  $CH_3I$ ,  $C_2H_2Cl_4$ ,  $CH_3Br$ , and  $CH_3Cl$  on the electron energy (up to 1,100 ev) was investigated. It is shown that as the energy of the ionizing electrons increases, the mass spectra contained fewer fragment ions.

Card 2/2

Tikhomirov, M. V.

Application of nitrogen-15 in a study of nitrogen nutrition and transformation in plants. P. V. Turchin, M. A. Gumin'skaya, E. G. Plyshevskaya, M. V. Tikhomirov, and V. V. Zertsalov. *Puchvedenie* 1955, No. 7, 1-12. (ND) (4)

Leaf sand and water cultures with standard nutrients were used to start the plants. Later, the cultures received  $(\text{NH}_4)_2\text{SO}_4$  enriched with  $\text{N}^{15}$  in various amounts. After definite intervals the plants were harvested and analyzed. The plants were exposed to this treatment from 15 min. to 240 hrs. In this manner it was possible to follow quantitatively the changes taking place in the respective N fractions. The results show that there is a continuous renewal of protein. This process is highly intensified in the tops of young plants. Within 72-120 hrs. all constitutional protein N is fully renewed. The reserve colloidal dissolved proteins are renewed much slower. The  $\text{N}^{15}$  appears in the constitutional proteins in much earlier stages than in the reserve proteins, which indicates that the synthesis of the former takes place earlier. Both types of proteins are formed much slower in the roots. The data show that 2 hrs. after adding the tagged N it could be detected in the form of amino acids. After 4 hrs. the  $\text{N}^{15}$  was detected in the chlorophyll and proteins. The mobile reserve proteins were found in the roots indicating movement from the leaves. It is postulated that the transformation of these is accomplished by enzyme systems which catalyze the synthesis of amino acids in plants. The intensity of amino acid formation and renewal of protein drops when plants are in the dark. J. S. Jaffe

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7.5.17.17.4.11

USSR/Physics - Physical chemistry

Card 1/2 Pub. 22 - 32/51

Authors : Tikhomirov, M. V.; Kolotyrkin, V. M.; and Tunitskiy, N. N.

Title : About the dissociation of primary ions in a mass-spectrometer.

Periodical : Dok. AN SSSR 101/5, 903-905, Apr 11, 1955

Abstract : The relation between the intensity of "fractional" n-butane peaks and pressure was investigated to explain the mechanism of primary ion dissociation at greater pressures. It is pointed out that the dissociation at greater pressures. It is pointed out that the dissociation during collision, as in the case of spontaneous decomposition, may depend upon the ion excitation and that the excitation varies depending upon the energy of the ionizing electrons. It was found that the relative intensity of the "fractional" peaks increases with the electron

Institution : The A. A. Zhdanov State University, Leningrad  
Presented by: Academician A. N. Terenin, November 14, 1954

Card 2/2

Pub. 22 - 32/51

Periodical : Dok. AN SSSR 101/5, 903-905, Apr 11, 1955

Abstract : energy, this is due to the fact that the spontaneous decomposition of the ions and their decomposition during collisions depend in various degrees upon the electron energy. Eight references: 3 German, 2 USSR, 2 USA and 1 English (1939-1953). Graphs.

Tikhomirov, M. V.

USSR/Physical Chemistry - Molecule. Chemical Bond.

B-4

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14363

Author : Tunitskiy N. N., Smirnova R. M., and Tikhomirov M. V.

Inst :

Title : "Fractional" peaks in the mass-spectrum of hydrogen

Orig Pub: Dokl. AN SSSR, 1955, 101, No 6, 1083-1084

**Abstract:** During collision of  $H_2^+$  ions with molecules, if the energy of the  $H_2^+$  is great, dissociation takes place with the formation of  $H^+$ . As a result of this process, the mass spectrum shows a washed-out line of apparent mass 1/2, the intensity of which, with respect to line 2, increases in proportion to the pressure. The relative intensity (RI) of the line 1/2 increases at first with increasing energy of the ionizing electrons, attaining rapidly a practically constant value (the cross section of dissociation =  $1.4 \cdot 10^{-16} \text{ cm}^2$ ). The drop of the line 1/2 near the potential of the appearance of  $H_2^+$  can be

Card 1/2

USSR/Physical Chemistry - Molecule. Chemical Bond.

B-4

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14363

Abstract: explained by the formation of unexcited  $H_2^+$  ions (with an infraction of the Frank-Condon principle) for which the dissociation cross section is less than for excited ions. It is also possible that, due to the increased period of existence of the ions in the ion source, there is a great loss of excitation for small energies of the ionizing electrons.

Card 2/2

Tikhomirov, M.V.  
Category : USSR/Electronics - Gas Discharge and Gas-Discharge Instruments

H-7

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1703

Author : Kupriyanov, S.Ye., Tikhomirov, M.V., Potapov, V.K.

Inst : Phys.-Chem. Inst., Moscow

Title : Decay of Positive Ions Upon Collision with Molecules

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 30, No 3, 569-570

Abstract : An investigation was made of several washed-out peaks in mass spectra of CO<sub>2</sub>, CO, CH<sub>2</sub>Br<sub>2</sub>, CH<sub>2</sub>I<sub>2</sub>, C<sub>2</sub>H<sub>2</sub>, and C<sub>2</sub>H<sub>4</sub> at ion energies of 2500 ev, electron energies of 70 ev, and an electron beam current of 0.5 ma. These peaks result either from the decay of ions upon collision with molecules and atoms, or from the decay of metastable ions. Results show that the probability of the decay of CO<sup>+</sup> with formation of C<sup>+</sup> is greater than with the formation of O<sup>+</sup>, this being in agreement with the affinity of the C and O atoms to electrons. In addition to the effect of the affinity, the difference in the probabilities of decay of CH<sup>+</sup> and CH<sup>2+</sup> with formation of C<sup>+</sup> at various gases, is explained by the difference in the number of particles that break away during the dissociation. The decay probability increases with increasing electron energy (up to 140 ev) and with increasing energy of the primary ions. Bibliography, 11 titles.

Card : 1/1

B-4

Tikhomirov, M.V.  
USSR / Physical Chemistry - Molecule. Chemical Bond

Abs Jour  
Title

: Referat Zhur - Khimiya, No 3, 1957, 7168

Author  
Title

: Kupriyanov, S.Ye., Tikhomirov, M.V., and Potapov, V.K.  
Disintegration of Positive Ions on Collision with  
Molecules

Orig Pub  
570

Zh. eksperim. i teor. fiziki, 1956, Vol 30, No 3, 569-

Abstract

The disintegration of ions accelerated up to 2,500 v caused by collisions of ions with molecules of the residual gas in the analyzer of a type MS-1 mass spectrometer has been investigated. The ions formed by the disintegration have a fractional apparent mass  $M^*$  ( $M^* = M_1^2/M_2$ , where  $M_1$  and  $M_2$  are the masses of the ions before and after disintegration). The fractional peaks produced by the disintegration of  $\text{CO}^+$ ,  $\text{CO}_2^+$ ,  $\text{CH}^+$ , and  $\text{CH}_2^+$  formed by the dissociation of  $\text{CO}$ ,  $\text{CO}_2$ ,  $\text{C}_2\text{H}_2$ ,  $\text{C}_2\text{H}_4$ ,  $\text{CH}_2\text{Br}_2$ , and  $\text{CH}_2\text{I}_2$  were investigated.

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sharp for e-  
lectrons. The ionization po-  
tential of the starting ions  
is given (~10-17 cm<sup>2</sup>).  
The possibility of the starting  
ionization potential of the disintegration. Nume-  
rally of disintegration up to 3,000 v)